THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 44

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte HANS UHLEMANN, BURKHARD BRAUN,
HEINZ HAUSMANN, GERHARD STOPP,
and HORST KARKOSSA

_____

Appeal No. 95-0140
Application 08/002,528[1]

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HEARD: October 15, 1997

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Before Stoner, ***Chief Administrative Patent Judge***, and Calvert and Meister, ***Administrative Patent Judges***.

Meister, ***Administrative Patent Judge.***

[1]Application for patent filed January 11, 1993. According to appellants, this application is a continuation of application 07/484,708, filed February 26, 1990, now abandoned; which is a continuation of application 07/224,524, filed July 26,1988, now Patent No. 4,946,654, issued August 7, 1990; which is a continuation of application 06/718,129, filed April 1, 1985, now abandoned.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 17, 18, 20, 22 and 24, the only claims remaining in the application.

The appellants' invention pertains to an apparatus for preparing granules wherein the product to be granulated is formed by continuously spraying an atomized liquid into a fluidized bed vessel. Initially, droplets of liquid from the spray are dried in the vessel and form nuclei or "seed particles." As the operation of the apparatus continues, some of the droplets impact the previously formed nuclei and are dried thereon in such a manner so as to form successive layers in a "shell-like fashion." When the granules reach or are "grown" to a desired size they are removed from the bottom of the vessel by a counter-current gravity classifier. Droplets of liquid which do not impact on previously formed nuclei are dried and thus form new nuclei. New nuclei may additionally be formed by the abrasion of small particles from the granules as the granules move about the vessel. Independent claim 17 is further illustrative of the appealed subject matter and reads as follows:

> 17. An apparatus for the continuous preparation of granules that grow in a shell-like fashion and have a narrow grain size distribution, said apparatus comprising:

(a) a fluidized-bed vessel;

(b) means for spraying a granule-forming liquid into said vessel, said means disposed at the bottom of said vessel;

(c) a fluidizing means for dispersing the liquid and any particles in said vessel;

(d) a means for returning to a bottom end of said vessel adjacent to and above the spraying means fine granules that escape from adjacent the top of said vessel; and

(e) at least one countercurrent gravity classifier at an outflow bottom of said vessel.

The references relied on by the examiner are:

Kono et al. (Kono)	4,217,127	Aug. 12, 1980
Ube (Great Britain)	1,142,046	Feb. 05, 1969
Rothele et al. (Rothele) (European publication)[2]	0 037 066	Oct. 07, 1981

The appellants' admission of prior art as set forth in lines 26-31 of page 1 of the specification (the admitted prior art).

Claims 17, 18, 20, 22 and 24 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kono in view of Ube and the admitted prior art, either alone or further in view of Rothele.

The examiner's rejection is explained on pages 3 and 4 of the final rejection. The arguments of the appellants and the examiner in support of their respective positions are set forth

[2] Translation attached.

on pages 6-10 of the brief and pages 3 and 4 of the answer.

OPINION

As a preliminary matter, we base our understanding of the appealed subject matter upon the following interpretation of the terminology appearing in the claims. In subparagraph (c) of independent claim 17 we interpret "a fluidizing means for dispersing the liquid and any particles in said vessel"[3] to be -- a fluidizing means for dispersing the liquid and some particles in said vessel --. This interpretation is consistent with the appellants' specification which states that the two-material nozzles (which are depicted in Figs. 3 and 9 as being located at the bottom of the vessel 1) "contribute" to a thorough mixing of the fluidized bed (page 23) and that "some," as distinguished from all or "any," of the droplets generated by the

[3] The appellants have failed to comply with the provisions of 37 CFR § 1.75(d)(1) which requires that the terms and phrases used in the claims must find clear support or antecedent basis in the description. Here, the appellants in the specification have described the "fluidizing means" as the gas which passes through the perforated outflow bottom 2 of the vessel 1 (see, e.g., page 20, lines 30-36) and the two-material nozzle 5 as an atomizing means (see, e.g., pages 23 and 24). On the other hand, the claims on appeal inconsistently set forth the two-material nozzle as the "fluidizing means" (see claims 20 and 24), after having previously set forth the perforated outflow bottom as a fluidized bed (see claims 17 and 24).

nozzles impact the particles (see page 17).

Considering first the rejection of claims 17, 18, 20 and 22 under 35 U.S.C. § 103 as being unpatentable over Kono in view of Ube and the admitted prior art, either alone or further in view of Rothele, we observe that the appellants have presented no arguments or reasons whatsoever as to why the examiner's rejection of claims 17, 18, 20 and 22 might be in error. Instead, the appellants' arguments in the brief have focused entirely on the rejection of independent claim 24. In any event, we have carefully reviewed the appellants' invention as described in the specification, the subject matter defined by independent claim 17 and the prior art applied by the examiner. This review leads us to conclude that the relied on prior art establishes the obviousness of the subject matter defined by independent claim 17 within the meaning of 35 U.S.C. § 103.

Initially we note that in order to establish obviousness under § 103 it is not necessary that the cited references or prior art must specifically suggest making the combination. ***B.F. Goodrich Co. V. Aircraft Braking Systems Corp.***, 72 F.3d 1577, 1582, 37 USPQ2d 1314, 1318 (Fed. Cir. 1996) and ***In re Nilssen***,

851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988).

Instead, the test for obviousness is what the combined teachings of the references would have suggested to those of ordinary skill in the art. ***In re Young***, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and ***In re Keller***, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Moreover, in evaluating such references it is proper to take into account not only the specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. ***In re Preda***, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

Here, Kono discloses an apparatus for the continuous preparation of granules that grow in a shell-like fashion (column 8, lines 51 and 52; column 12, lines 24 and 25) comprising a fluidized bed vessel 1, means 5b for spraying a granule-forming liquid into the vessel (see column 13, lines 19-22), a fluidizing means 5a for dispersing the liquid and some of the particles in the vessel (see column 11, line 66 through column 12, line 18; column 13, lines 17-19), a means 14 for collecting or recovering fine granules or particles that escape from adjacent the top of the vessel (which recovered particles Kono states "can be reused

for the process of the present invention" (see column 12, lines 55-57)) and a counter-current gravity classifier (the annular opening 3a in conduit 4 and the blower 27 for blowing inert gas) located at the bottom of the vessel. In this latter regard it should be noted that Kono expressly states that (1) "[w]hen the resultant urea granules reach the desired size, it becomes impossible for the stream of the inert gas blown through the annular opening to support the resultant urea granules" (column 12, lines 27-30) and (2) "the resultant urea granules having the desired size are separated from the other particles by utilizing a principle of gas elutriation in the conduit 4" (column 13, lines 40-42). We observe that Ube in lines 27-35 of page 5 also clearly teaches that it is conventional in the art to utilize a counter-current gravity classifier at the bottom of a fluidized bed.

While Kono (as we have noted above) states that the recovered fine granules are "reused,"[4] there is no teaching that

[4] The artisan would reasonably infer that Suzuki's recovered fine particles are "reused" as seed particles. This is particularly the case inasmuch as Suzuki utilizes fine particles, which are fed into the vessel through inlet 7, as seed particles

the recovered particles are returned "to the bottom end of said vessel adjacent to and above the spraying means" as set forth in independent claim 17. However, Ube teaches that recovered fine particles should be "recycled" and returned to the bottom of the bed as seed particles (see page 5, lines 48-62, and Fig. 1) for the self-evident purpose of achieving maximum economy of operation, and one of ordinary skill in this art would have found it obvious to return Kono's recovered fine particles to the bottom of the fluidized and "reusing" them as seed particles as taught by Ube in order to achieve this self-evident advantage. When returning the recovered fine particles to the bottom of the bed of Kono in accordance with the teachings of Ube (note that Ube teaches the recovered particles should be returned at a point just above the perforated bed 15 - see Fig. 1), the point of return would be both "adjacent to and above the spraying means" since Kono's spraying means is located at the very lowermost portion of the fluidized bed.

The examiner has additionally relied on the admitted prior

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or nuclei (see, e.g., column 13, lines 58-69).

art for a teaching of producing nuclei or seed particles by means of the granule-forming spray within the fluidized vessel itself, rather than introducing previously formed nuclei or seed particles into the fluidized vessel as taught by Kono. We must point out, however, there does not appear to be any limitation in independent claim 17 which precludes Kono's arrangement of introducing previously formed nuclei or seed particles into the fluidized vessel. In any event, even if independent claim 17 was construed as requiring that the nuclei or seed particles be formed by means of the granule-forming spray within the fluidized vessel itself, the admitted prior art clearly teaches that such an arrangement and that of Kono are art-recognized alternatives, thus fairly suggesting to the artisan to utilize either arrangement as desired. In our view, the teachings of the admitted prior art would have provided ample suggestion to one of ordinary skill in this art to modify Kono's apparatus so as to utilize the means 5b for spraying the granule-forming liquid (which in Kono only forms the outer layers about the nuclei or seed particles) to additionally form the nuclei or seed particles.

The examiner has also relied upon Rothele for a teaching of a zig-zag conveyor. There is, however, no limitation in independent claim 17 which requires that the counter-current gravity classifier be of the zig-zag type.

The appellants have not argued the patentability of dependent claims 18, 20 and 22 and, accordingly, these claims fall with independent claim 17. 37 CFR § 1.192(c)(7).

At oral hearing the appellants' counsel made reference to a declaration by Uhlemann as providing evidence of non-obviousness, which declaration was apparently attached to the preliminary amendment filed on Feb. 26, 1990 (Paper No. 4). We must point out, however, that the brief makes no mention whatsoever of this declaration (37 CFR § 1.192(a) expressly requires that all arguments and authorities relied on be set forth in the brief). In any event, even if this declaration had been relied on in the brief, paragraph 5 of the declaration merely makes the conclusory statement[5] that it is not possible in the British reference (Ube)

[5] Affidavits and declarations fail in their purpose when they recite conclusions with few facts to buttress the conclusions. ***See In re Brandstadter***, 484 F.2d 1395, 1406, 179 USPQ 286, 294 (CCPA 1973), ***In re Thompson***, 545 F.2d 1290, 1295,

to produce granules which grow in shell-like or "onion-like" fashion. Not only does the declaration fail to provide persuasive reasons as to why the apparatus of Ube would not produce granules which grow in shell-like or "onion-like" fashion, it also fails to specifically address the primary reference to Kono (which, as we have noted above, expressly states that the granules are formed in layers). Paragraph 6 of the declaration further states that, in contrast to the prior art, the appellants' invention does not require the introduction of seed particles. While it is not clear what "prior art" paragraph 6 is referring to, it apparently does not include the admitted prior art upon which the examiner has relied for a teaching that providing nuclei or seed particles by either (1) drying droplets of sprayed liquid within the fluidized vessel or (2) introducing previously formed nuclei or seed particles into the fluidized bed are art-recognized alternatives. Moreover, this statement is not commensurate with the scope of the claimed

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192 USPQ 275, 277-78 (CCPA 1976) and ***In re DeBlauwe***, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984).

subject matter since there is no limitation in claims 17, 18, 20 and 22 which would preclude an apparatus wherein seed particles were introduced into the granule forming apparatus.[6] Taken as a whole, we do not find the declaration by Uhlemann to be persuasive evidence of non-obviousness.

In view of the foregoing we will sustain the rejection of claims 17, 18, 20 and 22 under 35 U.S.C. § 103.

Turning to the rejection of claim 24 under 35 U.S.C. § 103, we have carefully considered the subject matter defined by this claim. However, for reasons stated ***infra*** in our new rejection entered under the provisions of 37 CFR § 1.196(b) no reasonably definite meaning can be ascribed to certain language appearing in claim 24. In comparing the claimed subject matter with the applied prior art, it is apparent to us that considerable speculations and assumptions are necessary in order to determine what in fact is being claimed. Since a rejection on prior art

[6] It is well established that evidence of non-obviousness must be commensurate in scope with the claims which the evidence is offered to support. ***See, e.g.,In re Tiffin***, 448 F.2d 791, 792, 171 USPQ 294 (CCPA 1971)and ***In re Dill***, 604 F.2d 1356, 1361, 202 USPQ 805, 808 (CCPA 1979).

cannot be based on speculations and assumptions (***see In re Steele***, 305 F.2d 859, 862-63, 134 USPQ 292, 295-96 (CCPA 1962) and ***In re Wilson***, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)), we are constrained to reverse the examiner's rejection of claim 24 under 35 U.S.C. § 103. We hasten to add that this is a procedural reversal rather than one based upon the merits of the § 103 rejection.

Under the provisions of 37 CFR § 1.196(b) we make the following new rejection.

Claim 24 is rejected under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter sought to be patented. When used in patent claims, the transitional phrases "consisting of" and "comprising" have special significance. That is, the transitional phrase "consisting of" is "closed" and limits the scope of the claim in which it is used only to those elements expressly recited and definitely excludes therefrom any element not specified therein. ***See, e.g., Ex parte Davis***, 80 USPQ 448, 449 (Bd. App. 1949). On the other hand, the transitional phrase

"comprising" is "open" and permits the inclusion of elements other than those specifically set forth in the claim terminology in which it is used. ***See, e.g., In re Baxter***, 656 F.2d 679, 686, 210 USPQ 795, 802 (CCPA 1981) and ***Moleculon Research Corp. v. CBS, Inc.***, 793 F.2d 1261, 1271, 229 USPQ 805, 812 (Fed. Cir. 1986). In claim 24, the transitional phrase "consisting of" links the preamble to the body of the claim and thus limits the claim as a whole only to those elements specifically recited

therein. ***Cf. Mannesmann Demag Corp. v. Engineered Metal Prods. Co.***, 793 F.2d 1279, 1282, 230 USPQ 45, 46 (Fed. Cir. 1986) (when the phrase "consisting of" appears in one clause of the patent, rather than in the preamble, it limits only the element set forth in that clause; the phrase does not exclude all other elements from the claim as a whole). Accordingly, the recitation in the body of the claim 24 that the "fluidizing means comprises . . ." (which permits the fluidizing means to include elements other than those expressly recited) is inconsistent with the prior recitation of "consisting of." This being the case, claim 24 fails to set forth subject matter defined therein with the

requisite degree of precision and particularity.

In summary:

The rejection of claims 17, 18, 20 and 22 under 35 U.S.C. § 103 is affirmed.

The rejection of claim 24 under 35 U.S.C. § 103 is reversed.

A new rejection of claim 24 is made under 35 U.S.C. § 112, second paragraph.

Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date hereof (37 CFR § 1.197).

With respect to the new rejection under 37 CFR § 1.196(b), should appellants elect the ***alternate*** option under that rule to prosecute further before the Primary Examiner by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire two months from the date of this decision. In the event appellants elect this alternate option, in order to preserve the right to seek review under 35 U.S.C. § 141 or 145 with respect to the affirmed rejection, the effective date of the

affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellants elect prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to us for final action on the affirmed rejection, including any timely request for reconsideration thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART
37 CFR § 1.196(b)

Bruce H. Stoner, Jr. Chief Administrative Patent Judge	)
Ian A. Calvert Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
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